Weighing the snow core to determine the water content

FEDERAL-STATE COOPERATIVE SNOW SURVEYS AND IRRIGATION WATER FORECASTS FOR OREGON

APRIL 1, 1945

By

Division of Irrigation, Soil Conservation Service
United States Department of Agriculture
and
Oregon Agricultural Experiment Station

Data included in this report were obtained by the agencies named above in cooperation with the Oregon State Engineer, U. S. Forest Service, National Park Service and other Federal, State and local organizations.

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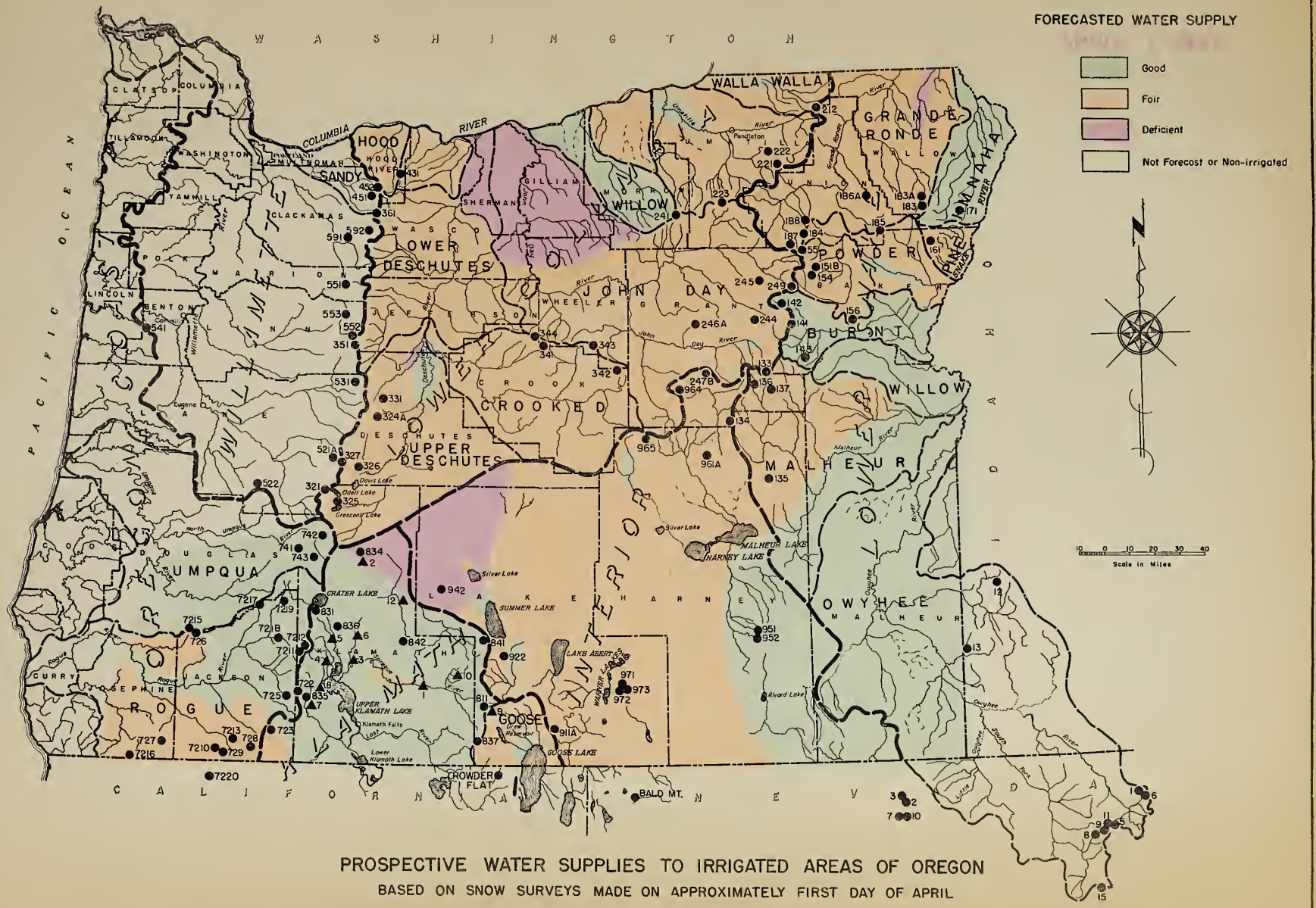


PROSPECTIVE WATER SUPPLIES TO IRRIGATED AREAS OF OREGON

BASED ON SNOW SURVEYS MADE ON APPROXIMATELY FIRST DAY OF APRIL

(Dry Farm Areas or Forest and Range Lands Not Necessarily Included)

U.S. DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE
JANUARY 1, 1945 7-L-8563

INDEX TO SNOW COURSES

Number	Name	Elev.
	UPPER COLUMBIA DRAINAGE Lower Snake in Oregon	
	OWYHEE RIVER	
Nev.1	Big Bend	6800
Nev.2	Buckskin, Lower	6800
Nev.3	Buckskin, Upper	8200
952	Fish Creek	7900
Nev.5	Fry Canyon	6800
Nev.6	Gold Creek Ranger Sta.	6600
Nev.7	Granite Peak	8600
Nev.8	Jack Creek, Lower	7000
Nev.9	Jack Creek, Upper	7800
Nev.10	Martin Creek	7000
Nev.11	Rodeo Flat	7000
Ida.12	Silver City	6400
951	Silvies	6900
Ida.13	South Mountain No. 2	6340
Nev.15	Taylor Canyon	5200
	MALHEUR RIVER	
133	Blue Mountain Spring	5900
137	Crane Prairie	5375
136	Lake Creek	5120
134	Rock Spring	5100
135	Stinking Water	4800
	BURNT RIVER	
143	Barney Creek	5950
141	Blue Mountain Summit	5098
156	Dooley Mountain	5430
142	Tipton	5100
	POWDER RIVER	
155	Anthony Lake	7125
154	Bourne	5800
156	Dooley Mountain	5430
151B	Eilertson Meadows	5400
249	Gold Center	5340
184	Summit Springs	6000
185	Taylor Green	5740
	PINE CREEK	
161	Schneider Meadows	5400
	IMNAHA RIVER	
171	Coverdale	4250
	GRANDE RONDE RIVER	
183	Aneroid Lake	7480
183A	Aneroid Lake No. 2	7000
155	Anthony Lake	7125
188	Beaver Reservoir	5340
187	Camp Carson	5970
186A	Moss Spring	5850
184	Summit Springs	6000
185	Taylor Green	5740
212	Tollgate	5070

Number	Name	Elev.
	LOWER COLUMBIA DRAINAGE	
	WALLA WALLA RIVER	
212	Tollgate	5070
	UMATILLA RIVER	
222	Emigrant Springs	3925
223	Lucky Strike	5050
221	Meacham	4300
212	Tollgate	5070
	WILLOW CREEK	
241	Arbuckle Mountain	5400
	JOHN DAY RIVER	
241	Arbuckle Mountain	5400
246A	Beech Creek Summit	4800
133	Blue Mountain Spring	5900
141	Blue Mountain Summit	5098
244	Dixie Springs	6650
249	Gold Center	5340
964	Izee Summit	5293
245	Olive Lake	6000
965	Snow Mountain	6300
247B	Starr Ridge	5150
	DESCHUTES RIVER	
326	Caldwell Ranch	4400
321	Cascade Summit	4880
327	Charlton Lake	5750
361	Clear Lake	3500
325	Crescent Lake	4760
343	Derr	5670
351	Hogg Pass	4755
344	Marks Creek	4540
324A	New Dutchman Flat	6400
341	Ochoco Meadows	5200
965	Snow Mountain	6300
342	Tamarack	4800
331	Three Creeks Meadows	5600
	HOOD RIVER	
431	Brooks Meadows	4300
	SANDY RIVER	
361	Clear Lake	3500
452	Phlox Point - Mt. Hood	5600
451	Still Creek	3700
	CLACKAMAS RIVER	
592	Clackamas Lake	3400
591	Peavine Ridge	3500

Number	Name	Elev.
	WILLAMETTE RIVER	
551	Breitenbush	2325
321	Cascade Summit	4880
522	Champion	4500
327	Charlton Lake	5750
351	Hogg Pass	4755
531	McKenzie	4800
553	Marion Forks	2730
541	Mary's Peak	3620
552	Santiam Junction	3990
521A	Waldo Lake	5500
	KLAMATH LAKE BASIN	
831	Annie Spring	6018
722	Billie Creek Divide	6000
834	Chemult No. 1	4760
Calif.	Crowder Flat	5200
723	Hyatt Prairie Reservoir	4900
835	Lake of the Woods No. 1	4960
811	Quartz Mountain	5320
7211	Seven Lakes No. 1	6800
7212	Seven Lakes No. 2	6200
837	Strawberry	5600
841	Summer Rim	7200
836	Sun Mountain	5350
842	Taylor Butte	5100
	GOOSE LAKE BASIN	
911A	Camas Creek	5720
811	Quartz Mountain	5320
837	Strawberry	5600

INDEX TO THE CALIFORNIA OREGON POWER COMPANY SNOW WATER STATIONS

	KLAMATH LAKE BASIN	
1	Beatty	4300
2	Chemult	4761
3	Chiloquin	4187
4	Crystal	4200
5	Fort Klamath	4150
6	Kirk	4533
7	Lake of the Woods	4960
8	Pelican	4200
9	Quartz Mountain	5504
10	Richardson Ranch	4800
12	Yamsey	4600
	GOOSE LAKE BASIN	
9	Quartz Mountain	5504

Number	Name	Elev.
	INTERIOR DRAINAGE	
	SILVER LAKE	
942	Silver Creek	4900
	CHEWAUCAN RIVER	
922	Mill Creek	6200
	HARNEY BASIN	
973	Deer Creek	6670
952	Fish Creek	7900
971	Hart Mountain	6350
961A	Idylwild Park	5200
964	Izee Summit	5293
134	Rock Spring	5100
951	Silvies	6900
965	Snow Mountain	6300
247B	Starr Ridge	5150
	WARNER LAKE	
911A	Camas Creek	5720
	GUANO LAKE	
Nev.	Bald Mountain	6720
972	Guano Creek	6480
	WEST COAST DRAINAGE	
	UMPQUA RIVER	
522	Champion	4500
743	Diamond Lake	5315
726	Goolaway Gap	3000
7215	Goolaway Mountain	3730
742	N.Umpqua near Lake Creek	4215
741	Trap Creek	3800
7217	Whaleback	5140
	ROGUE RIVER	
7216	Althouse	4400
831	Annie Spring	6018
729	Big Red Mountain	6500
722	Billie Creek Divide	6000
725	Fish Lake	4865
726	Goolaway Gap	3000
7215	Goolaway Mountain	3730
727	Grayback Peak	6000
723	Hyatt Prairie Reservoir	4900
7210	Little Red Mountain	6500
7220	Scragg Mountain	6200
7211	Seven Lakes No. 1	6800
7212	Seven Lakes No. 2	6200
7219	Silver Burn	3720
728	Siskiyou Summit	4630
7218	South Fork Canal	3500
7213	Wagner Butte	6900
7217	Whaleback	5140

April 1, 1945

WATER SUPPLY OUTLOOK

Oregon's 1945 water supply prospect has shown remarkable improvement during the past month. 93 percent of irrigated lands now have in sight "good" to "fair" water supplies. These are lands chiefly served from reservoirs. A few areas depending for irrigation upon unregulated stream flow have in prospect "good" water supplies, but for the greater part, prospective water supplies to such areas will be mostly "fair" with a few small localized areas expected to have "deficient" water supplies.

Mountain snow cover enters the melting season slightly below average on 45 percent of all Oregon courses, but for the State as a whole, is nearly 40 percent greater than last year. With few exceptions, stream flow is expected to be below normal, but in most places not seriously so.

Total water stored in all reservoirs is 6 percent greater than of similar date last year, but is 14 percent less than in 1943 and 14 percent less than in 1942. The number of reservoirs better than half full is about the same as in 1944 and 1943, but is greater than in 1942.

Precipitation accumulated in Oregon valleys since October 1 averages 89 percent of normal, as compared with 70 percent of normal for the same period in 1944.

Irrigated crop land soil moisture and watershed soil moisture are about average in most localities but in some areas, notably in wheat lands of Wasco, Sherman and Gilliam Counties, soil moisture penetration is below par.

There appears to be no likelihood of damaging high water in any part of the State during the spring run-off period.

Stream flow forecasts are summarized on pages 2 and 3 of this report, and forecast committee reports are detailed beginning on page 19.

Explanation of Tabulation Below and of Water Forecast Map Preceding Page 1

Tabulated below are figures indicating for what percentage of Oregon's irrigated acreage (1,049,176 acres total by 16th U. S. Census, 1940) the 1945 irrigation water supply is expected to be "good" or otherwise. Terms describing forecast water supply are based on local definition. The descriptive words indicate whether or not the prospective water supply to the given percentages of the total is expected to be, by local standards, deficient, fair (generally adequate but somewhat short late in the season), or good, for crop production on the usual acreage. These differences are shown in color on the map preceding page 1.

Prospective 1945 Irrig. Supply:	Deficient	Fair	Good	No Forecast	Total
Percent of Total Irrigated Area:	4	41	52	3	100

The following summarized run-off forecasts are based on mountain snow cover and on the assumption that precipitation and temperature during the run-off season will be approximately normal. Appreciable deviations from normal of temperature and/or precipitation, especially during April or May, will correspondingly modify these forecasts.

		Apr.-Sept.,incl., Stream Flow Expectancy as of Apr. 1, 1945		
Area	Stream	Acre Feet	As % of Avg. 1929-43	As % of Last Year
Northcentral	White River below Tygh Valley at Sta. 3613	80,000	59	91
Umatilla-Walla Walla	McKay Creek above McKay Reservoir (2213)	22,000	92	95 l
	S. Fk. Walla Walla River near Milton (214)	56,000	86 a	114 l
	Umatilla R. nr. Gibbon (2236)	74,000	96 b	120 l
	Umatilla R. at Pendleton (223)	145,000	98	124 l
Northeastern	Bear Creek near Wallowa (1815)	50,000	85	j
	Grande Ronde River near LaGrande (1816)	120,000	79	j
	Hurricane Cr. near Joseph (1814)	34,000	89	j
	Imnaha River at Imnaha (172)	200,000	81	106
	Lostine R. near Lostine (1810)	95,000	89	j
	Powder River at Salisbury (152)	45,000	90	j
	Wallowa R., E. Fk. (1822+1823)	8,500	91	100
	Catherine Creek nr. Union (185)	49,000	78	j
	Burnt River near Hereford (143) (Natural Flow)	32,000	99 f	j
Eastern	Malheur River, Middle Fork, near Drewsey (1320)	60,000	105	j
	Malheur River, North Fork, at Beulah (139)	49,000	104	j
	Owyhee R.abv.Owyhee Res. (1232)	310,000	76 c	107 l
	Strawberry Creek near Prairie City (2434)	6,200	88 c	j

(Continued on page 3)

(Continued)

Area	Stream	Apr.-Sept., incl., Stream Flow Expectancy as of Apr. 1, 1945		
		Acre Feet	As % of Avg. 1929-43	As % of Last Year
Harney Basin	Silvies R. near Burns (966)	53,000	86	j
Central	Crescent Lake Net Inflow	5,000	45	j
	Ochoco Reservoir Net Inflow	11,000	79	208
	Odell Cr. nr. Crescent (3212)	22,000	91 d	110
	Squaw Cr. nr. Sisters (335)	34,500	73	j
	Tumalo Cr. & C. S. Canal (338a)	32,000	75	j
Southcentral	Chewaucan R. nr. Paisley (924)	50,000	95 e	j
	Deep Creek abv. Adel (9127)	40,000	80 e,f	j
Klamath Basin	Clear Lake Reservoir Net Inflow	105,000 g	95 h	j
	Gerber Reservoir Net Inflow	-	80 h	j
	Upper Klamath Lake Net Inflow	402,000	101	105
	Sprague River above Chiloquin (8421)	170,000	90	j
	Williamson R. below Sprague R. (8419)	290,000	89	110
Southern	Applegate R. near Ruch (7212)	85,000	75	j
	Clearwater R. above Trap Cr. (7420)	55,500	99	101
	Fourmile Lake Net Inflow	5,600	83 i	j
	Hyatt Prairie Res. Net Inflow	3,600	71	j
	Little Butte Cr., N. Fk., below Fish Lake (Natural flow) (7230)	12,000	96 k	j
	N. Umpqua River below Lake Creek (7419)	140,000	99	105
	N. Umpqua River at Toketee Falls (7414)	325,000	98	110
	Rogue River, N. Fk., above Prospect (722)	255,000	92	107
	Rogue R., Mid. Fk., plus Power Canal (7217a)	60,000	89	98
	Rogue R., S. Fk., above Imnaha Creek (7282)	43,000	78 a	107
	Rogue R. below S. Fk. (7277)	560,000	93 f	105
Willamette Valley	Clackamas R. at Big Bottom (5911)	114,000	75	103
	McKenzie R. at McKenzie Br. (534)	412,000	77	97
	McKenzie R. near Vida (535)	820,000	73	95
	Willamette R., Mid Fk., at Eula (512)	600,000	80	108

a - 1932-43
b - 1933-43
c - 1931-43
d - 1934-43 average
e - April-June, incl., rather than April-Sept.
f - 1930-43 average
g - Stream year 1944-45
h - 1905-43 average
i - 1929-43, incl., lacking 1931
j - not available
k - 1929-42
l - 1944 run-off figure tentative only

COMPARISON OF SNOW COVER AS OF APRIL FIRST WITH THAT OF PREVIOUS YEARS

Snow-stored water now present above 5,000 feet:

As percent of that present one month ago	--	144
As percent of that present one year ago	--	146
As percent of that present two years ago	--	80
As percent of average	--	104

Snow-stored water now present from 2,000-5,000 feet:

As percent of that present one month ago	--	193
As percent of that present one year ago	--	132
As percent of that present two years ago	--	56
As percent of average	--	84

Water content of snow on 84 percent of all measured courses is more than at this time in 1944, but in 57 percent of the comparisons, is less than on about April 1 of 1943. Water content of snow on 45 percent of all measured courses is less than average.

The intent of the tabulation below is to show in a general way the relationship of April 1, 1945 snow cover to that of earlier years at a comparable date. Least recorded April 1 water content of snow is underscored.

Water Content of Snow (Inches) as of About April 1

Stream Basin	Owyhee	Malheur-John Day	Harney-John Day	John Day-Burnt	Powder	Grande Ronde	Walla Walla	Crooked	Clackamas	Willam-Desch.	Rogue-Umpqua	Klam-Rogue	Klam-Rogue
Snow Course / Year	Big Bend	Blue Mt. Springs	Izee Summit	Blue Mt. Summit	Bourne	Aneroid Lake	Toll-gate	Ochoco Mdws.	Peavine Ridge	Cascade Summit	Diam. Lake	Annie Sprg.	Billie Creek Divide
1928								7.5					
1929		9.4						7.8		28.1	9.4[c]		20.8
1930		4.1						0.6		10.0	3.5[c]	20.5	0.0
1931		9.1		5.2			21.7	6.2		16.2	9.0[c]	26.1	13.1
1932		22.3		N.R.		41.1	41.4	12.7		42.0	23.8[c]	23.6[b]	29.2[d]
1933		22.4		N.R.		40.4[a]	36.6	N.R.		43.3	33.0[c]	N.R.	31.3
1934		N.R.		N.R.		27.2[b]	0.0	0.0		N.R.	1.4[c]	N.R.	-
1935	8.8	11.0		N.R.		33.1	25.6	10.5		35.1	10.2[c]	55.8	32.1
1936	19.2	18.2	10.5	9.6	18.3	32.5	41.3	12.6		36.0	19.2[c]	56.1	38.2
1937	10.5	16.1	7.5	6.2	10.5	27.9	25.9	15.0	25.2	32.4	23.2	43.5	26.6
1938	11.4	23.4	8.8	8.9	17.1	47.3	23.0	14.7	23.7	31.4	33.1	61.9	26.4
1939	3.4	11.1	6.2	3.0	11.1	30.1	29.8	7.6	23.3	38.5	19.8	37.4	33.1
1940	3.8	8.8	0.0	1.0	11.9	31.5	18.7	3.8	2.9	15.4	9.8	44.1	9.4
1941	9.7	9.8	3.1	2.8	10.3	28.4	12.1	4.6	0.0	11.4	6.7	39.1	6.7
1942	10.4	12.6	6.3	9.0	13.6	33.6	18.4	9.9	9.3	19.7	12.1	31.9	19.3
1943	15.3	21.8	10.6	12.2	22.6	43.1	34.6	13.1	35.5	39.4	31.3	49.9	31.3
1944	5.6	8.2	5.6	4.6	8.4	21.0	20.0	5.0	9.8	15.9	10.6	23.9	17.0
1945	12.1	14.1	8.6	7.7	22.5	30.5	15.3	11.0	10.4	20.8	17.6	36.1	22.3

a - April 19 b - April 17 c - From Copco Water Station d - April 22 N.R. - No report

STATUS OF SNOW COVER AS OF APRIL FIRST
Summary of Snow Survey Data
by Watersheds as of About April First

Stream Basin	Number of Snow Courses Averaged	Average Water Depth in Snow Cover (Inches) 1945	1944	1943	Avg. Past Yrs. of Record	Yrs. of Record	1945 Snow Water Depth (Inches) as Percent of that in 1944	1943	Avg.
Owyhee River	13	12.1	5.9				205		
	14	11.2		8.3				135	
	14	11.2			7.2	(3-10)			156
Malheur River	5	7.6	4.5				169		
	5	7.6		10.6				72	
	5	7.6			6.9	(7-15)			110
Burnt River	3	10.2	5.9				173		
	3	10.2		13.6				75	
	3	10.2			7.7	(6-12)			132
Powder River	7	15.8	11.5				137		
	7	15.8		21.5				73	
	7	15.8			14.7	(6-9)			107
Pine Creek	1	26.1	20.3				128		
	1	26.1		36.7				71	
	1	26.1			27.4	(7)			95
Grande Ronde River	9	20.0	16.2				123		
	9	20.0		28.8				69	
	9	20.0			20.0	(3-16)			100
Walla Walla River	1	26.0	20.0				130		
	1	26.0		34.6				75	
	1	26.0			24.9	(14)			104
Umatilla River	4	14.2	10.9				130		
	4	14.2		16.0				89	
	4	14.2			12.0	(6-16)			118
Willow Creek	1	11.8	6.9				171		
	1	11.8		9.0				131	
	1	11.8			9.4	(16)			126
John Day River	10	11.7	7.3				160		
	9	11.4		14.8				77	
	10	11.7			9.8	(1-16)			119
Deschutes River	8	15.7	13.0				121		
	7	12.6		28.4				44	
	8	15.7			22.0	(8-16)			71
Crooked River	4	9.2	4.8				192		
	3	7.5		9.9				76	
	4	9.2			6.6	(1-16)			139
Hood River	1	8.0	5.0				160		
	1	8.0		21.4				37	
	1	8.0			8.4	(12)			95

Stream Basin	Number of Snow Courses Averaged	Average Water Depth in Snow Cover (Inches) 1945	1944	1943	Avg. Past Yrs. of Record	Yrs. of Record	1945 Snow Water Depth (Inches) as Percent of that in 1944	1943	Avg.
Sandy River	3	24.1	20.6				117		
	3	24.1		47.2				51	
	3	24.1			27.3	(8-13)			88
Clackamas River	1	10.4	9.8				106		
	1	10.4		35.5				29	
	1	10.4			16.2	(8)			64
Willamette River	10	17.1	12.3				139		
	9	19.0		34.9				54	
	10	17.1			18.1	(3-15)			94
Silver Lake Basin	1	0.0	0.0				100		
	1	0.0		3.3				0	
	1	0.0			0.8	(4)			0
Chewaucan River	1	7.8	3.3				236		
	1	7.8		7.0				111	
	1	7.8			4.4	(6)			177
Harney Basin	9	10.8	5.9				183		
	8	10.3		10.2				101	
	9	10.8			7.6	(1-14)			142
Guano Lake	2	6.4	3.3				194		
	2	6.4		4.6				139	
	2	6.4			4.6	(5)			139
Warner Lake	1	10.9	8.6				127		
	1	10.9		13.5				81	
	1	10.9			8.5	(6)			128
Umpqua River	7	12.7	9.1				140		
	7	12.7		17.5				72	
	7	12.7			13.1	(6-16)			97
Upper Rogue River	13	17.2	12.2				141		
	14	19.5		24.7				79	
	14	19.5			22.4	(1-14)			87
Applegate River	5	19.7	14.9				132		
	5	19.7		17.3				114	
	5	19.7			22.9	(4-10)			86
Illinois River	2	14.0	7.4				189		
	2	14.0		9.5				147	
	2	14.0			16.8	(8-9)			83
Klamath Lake Basin	20*	10.5	7.8				135		
	22*	12.1		17.1				71	
	22*	12.1			14.2	(1-18)			85
Goose Lake Basin	3*	7.7	6.4				120		
	4*	7.6		5.4				141	
	4*	7.6			4.8	(5-14)			158

* Including Copco water measurement stations.

STATUS OF WATERSHED SOIL MOISTURE

Soil moisture samples were not secured on Southern Oregon watershed soil moisture stations in the spring of 1945. Samples elsewhere in Oregon were secured at established soil moisture stations as included in the tabulation below. Soil samples, taken last fall, beneath the then existing snow cover, are reported on page 6, Snow Surveys and Irrigation Water Forecasts for Oregon, as of February 1, 1945.

Summary of Soil Moisture in March
Central and Eastern Oregon 1940-1945
(Soil moisture is expressed as percentage of the soil dry weight.)

Soil Moisture Station	Date	Depth in Feet 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	0-3	3-5 or 3-6	0-5 or 0-6
Blue Mtn.	3-26-40	54.8	32.4	25.2	28.6	23.4	-	Bedrock		37.5	-	-
Summit	3-19-41	61.0	37.1	31.3	27.4	30.1	32.5	"		43.1	30.0	36.6
Elev. 5098	3-21-42	54.8	46.2	36.5	30.4	33.4	35.0	"		45.8	32.9	39.4
Sec. 6,	3-26-44	54.6	31.0	25.6	27.6	30.6	38.6	"		37.1	32.3	34.7
T. 12 S.,	3-26-45	46.6	28.6	34.4	37.2	34.8	34.7	"		36.5	35.6	36.0
R. 36 E.												
Catherine	3-22-42	59.7	52.1	45.7	40.1	39.4	42.6	43.2	53.0	52.5	40.7	46.6
Creek	3-24-44	53.6	26.4	24.8	24.9	27.0	28.4	31.6	37.3	34.9	26.8	30.8
Elev. 4240	3-24-45	61.0	41.0	26.4	36.6	36.5	44.4	47.5	66.3	42.8	39.2	41.0
Sec. 27,												
T. 5 S.,												
R. 41 E.												
Chemult	3-27-40	63.2	53.7	51.4	52.6	42.0	37.7	41.8	44.9	56.1	44.1	50.1
Elev. 4760	3-18-41	56.7	36.2	36.5	36.6	37.4	38.0	40.9	43.8	43.1	37.3	40.2
Sec. 21,	3-20-42	35.9	35.4	39.3	35.8	37.1	39.1	42.2	45.8	36.9	37.3	37.1
T. 27 S.,	3-21-44	58.8	35.2	33.2	32.4	34.8	35.6	38.2	42.1	42.4	34.3	38.3
R. 8 E.	3-20-45	72.8	36.4	38.6	38.9	38.7	39.8	43.5	46.6	49.3	39.1	44.2
Dooley Mtn.	3-19-41	47.4	21.9	19.7	18.8	24.6	22.3	Bedrock		29.7	21.9	25.8
Elev. 5300	3-22-42	51.2	35.3	24.9	25.7	-	-	"		37.1	-	-
Sec. 32,	3-26-44	43.9	26.1	15.2	10.5	10.9	-	"		28.4	-	-
T. 11 S.,	3-26-45	59.5	29.6	14.8	13.9	-	-	"		34.6		
R. 40 E.												
Emigrant	3-23-42	71.8	66.8	33.8	28.9	29.1	37.6	33.6	-	57.5	31.9	44.7
Springs	3-24-44	60.4	32.3	25.4	21.8	25.2	-	-	-	39.4	-	-
Elev. 3900	3-24-45	60.0	57.5	35.9	28.5	31.2	47.1	-	-	51.1	35.6	43.4
Sec. 29,												
T. 1 N.,												
R. 35 E.												

(Continued on page 8)

Summary of Watershed Soil Moisture (Continued)

Soil Moisture Station	Date	Depth in Feet 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	0-3	3-5 or 3-6	0-5 or 0-6
Granite-	3-19-41	58.5	24.9	13.9	14.9	7.5	Bedrock			32.4	11.2	23.9
Sumpter	3-24-42	45.4	17.9	12.9	14.9	16.4	"			25.4	15.7	21.5
Divide	3-25-44	54.7	19.9	11.1	7.2	11.9	"			28.6	9.6	21.0
Elev. 5790	1945	Not measured										
Sec. 22,												
T. 9 S.,												
R. 36 E.												
Ochoco	3-26-40	58.3	53.6	59.7	42.4	41.0	41.8	40.0	42.9	57.2	41.7	49.5
Mountain	3-18-41	56.1	50.5	43.9	42.4	45.3	45.3	46.5	45.9	50.2	44.3	47.2
Elev. 5080	3-21-42	49.5	54.6	45.5	44.1	42.5	44.3	42.7	40.4	49.9	43.6	46.8
Sec. 8,	3-22-44	62.4	44.2	41.6	41.0	37.4	39.0	40.9	39.3	49.4	39.1	44.3
T. 13 S.,	3-21-45	55.3	52.4	49.2	46.0	44.0	42.9	42.3	35.4	52.3	44.3	48.3
R. 20 E.												
Quartz Mtn.	3-25-42	33.5	34.6	39.4	39.9	36.2	31.4	38.5	57.4	35.8	35.8	35.8
Elev. 5350	3-28-44	35.8	18.9	24.4	28.3	34.1	26.3	43.8	52.0	26.4	29.6	28.0
Sec. 33,	3-26-45	58.1	30.6	33.2	32.2	26.4	38.1	35.1	44.0	40.6	32.2	36.4
T. 37 S.,												
R. 16 E.												
Starr Ridge	3-24-42	35.0	28.2	26.9	15.6	13.4	14.8	13.9	13.7	30.0	14.6	22.3
Elev. 5156	3-27-44	39.5	25.6	20.3	13.1	14.0	13.0	16.1	15.0	28.5	13.4	20.9
Sec. 20,	3-27-45	43.3	19.6	12.6	13.7	13.6	13.5	14.3	17.4	25.2	13.6	19.4
T. 15 S.,												
R. 31 E.												
Tollgate	3-23-42	65.6	56.4	33.3	31.8	30.9	36.6	38.4	42.6	51.8	33.1	42.4
Elev. 5070	3-23-44	61.0	53.0	35.6	34.2	30.7	34.0	38.9	45.9	49.9	33.0	41.4
Sec. 32,	3-23-45	65.3	49.2	34.1	30.9	33.5	36.5	51.9	50.6	49.5	33.6	41.6
T. 4 N.,												
R. 38 E.												

Three new stations sampled in 1945 are not shown, as comparative records at these stations are lacking.

Watershed soil moisture conditions are believed now to be about average. Stream flow expectancy from any given snow cover, as affected by watershed soil moisture, should be neither increased nor decreased from average in 1945.

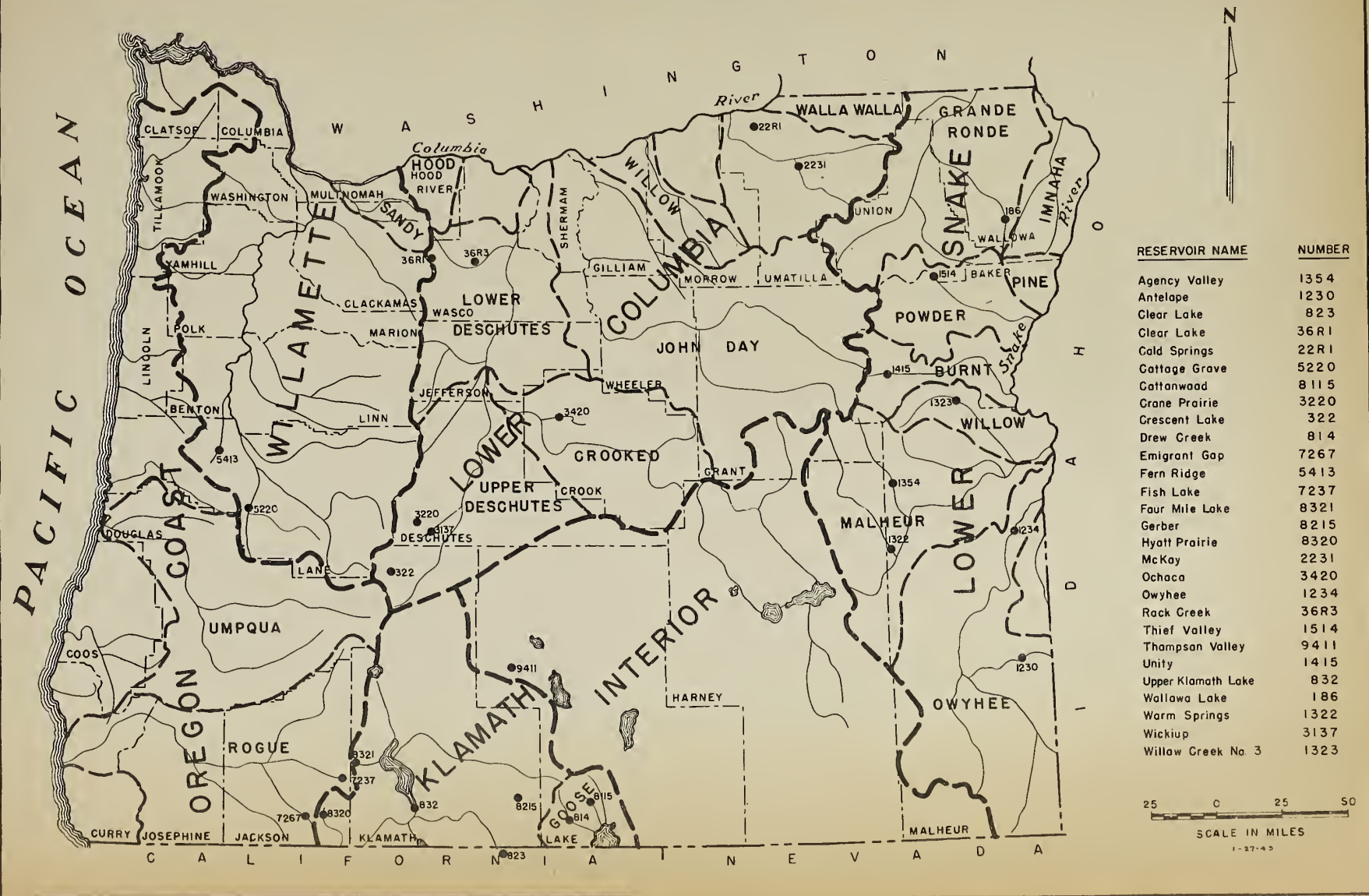
STATUS OF RESERVOIR STORAGE AS OF APRIL FIRST

In the following tabulation, water storage in acre feet in important Oregon reservoirs as of about April 1, 1945, is compared with storage as of approximately the same date in 1944, 1943, 1942, and with 10 yr. average, 1935-44.

Storage Reservoir	Stream Basin	Capacity Acre Ft.	Acre Feet in Storage: About 4-1-45	About 4-1-44	About 4-1-43	About 4-1-42	10-yr.Avg. 1935-44
Agency Valley	Malheur	60,000	60,000	50,210	35,940	57,120	46,543[h]
Antelope	Owyhee	36,550	22,600	4,500	27,733	19,473	17,378
Clear Lake	Lost River	440,240[b]	284,180[b]	296,080[b]	362,620[b,c]	304,780[b]	214,467[b]
Cold Springs	Umatilla	50,000	42,000	50,000	50,000	48,600	48,740[i]
Cottage Grove	Willamette	30,000[b]	20,100[b]	19,910[b]	23,740[b]	-	-
Cottonwood	Goose Lake	4,160	1,930	399	0 [c]	No report	1,155[j]
Crane Prairie	Deschutes	50,000	32,300	47,310	41,600[a]	27,020[a]	35,413[k]
Crescent Lake	Deschutes	80,000	34,360	54,310	35,000	22,010[a]	34,773
Drew Creek	Goose Lake	62,500	47,000	43,610	62,000[a]	53,000[a]	44,610
Emigrant Gap	Rogue	8,200	7,948	5,946	8,294	8,342[a]	7,802
Fern Ridge	Willamette	95,000[b]	69,200[b]	35,430[b]	77,410[b]	45,660[b]	-
Fish Lake	Rogue	7,720	4,046	6,988	5,816	3,707[a]	4,940
Fourmile Lake	Klamath	14,000[d]	8,602	11,780[a]	4,704	3,720	7,800
Gerber	Klamath	94,000[b]	59,600[b]	53,944[b]	75,640[b,c]	57,910[b]	55,987[b]
Hyatt Prairie	Klamath	16,000[d]	3,605	7,600	12,030[a]	7,566	7,376
McKay	Umatilla	74,000	62,050	54,160	64,280[c]	71,300	47,231
Ochoco	Crooked	46,000	11,360	24,000	45,760	23,600	20,343
Owyhee	Owyhee	715,000[b]	606,420[b]	525,320[b]	617,200[b,c]	634,440[b]	639,260[b,l]
Rock Creek	White	1,350	800	775	-	-	-
Thief Valley	Powder	17,400	17,400	17,400	17,400[c]	17,400	16,902[l]
Thompson Valley	Silver Lake	17,400	2,300	7,184	15,000	4,250[a]	6,587[h]
Unity	Burnt	25,260	13,000	12,400	11,980[c]	14,480	16,903[m]
Upper Klamath	Klamath	583,900[f]	359,620[g]	333,400[g]	438,600[g,c]	515,400[g]	474,550[g]
Wallowa Lake	Wallowa	40,920	12,020	31,880[a]	25,640	33,340	20,784
Warmsprings	Malheur	190,000	90,084	131,430	184,900[c]	179,700	119,096
Wickiup	Deschutes	180,000	67,220	9,000[a]	9,068[c]	-	-
Willow Creek	Malheur	26,000	13,000	11,640	9,000[a,c]	No report	6,148[n]

a - Estimated
b - Available for use
c - Water being by-passed to provide space for anticipated inflow
d - By ditch to Rogue River side
e - Approximate
f - Based on gage zero elev. 4135.0
g - Based on gage datum 4135.0
h - 1936-44
i - 1940-44
j - Excl. 1942
k - Excl. 1936
l - 1937-44
m - 1938-44
n - 1937-44, excl.'41-42

IMPORTANT OREGON RESERVOIRS



RESERVOIR NAME	NUMBER
Agency Valley	1354
Antelope	1230
Clear Lake	823
Clear Lake	36R1
Cold Springs	22R1
Cottage Grove	5220
Cottonwood	8115
Crane Prairie	3220
Crescent Lake	322
Drew Creek	814
Emigrant Gap	7267
Fern Ridge	5413
Fish Lake	7237
Four Mile Lake	8321
Gerber	8215
Hyatt Prairie	8320
McKay	2231
Ochoco	3420
Owyhee	1234
Rock Creek	36R3
Thief Valley	1514
Thompson Valley	9411
Unity	1415
Upper Klamath Lake	832
Wallowa Lake	186
Warm Springs	1322
Wickiup	3137
Willow Creek No. 3	1323

U.S. DEPT. OF AGRICULTURE

SOIL CONSERVATION SERVICE
7-L-3060

STATUS OF VALLEY PRECIPITATION AS OF OCTOBER 1 TO DATE

Month	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		Period	
Section	P	D	P	D	P	D	P	D	P	D	P	D	P	D
S. E.	0.29	-0.39	1.80	+0.92	1.00	-0.17	1.08	-0.23	1.40	+0.35	1.2	+0.4	6.77	+0.88
S. C.	0.86	-0.11	2.76	+0.95	1.20	-0.92	1.06	-0.76	2.42	+0.83	0.8	-0.5	9.10	-0.51
N. C.	0.72	-0.04	1.45	-0.10	0.91	-0.52	1.18	-0.25	1.70	+0.36	0.6	-0.3	6.56	-0.85
Col. Riv.	0.44	-0.56	1.56	-0.12	0.72	-0.95	1.51	-0.12	1.67	+0.32	1.5	+0.4	7.40	-1.03
Wal. Mts.	0.74	-0.70	1.54	-0.31	0.52	-0.86	1.91	-0.20	1.92	-0.25	1.5	+0.1	8.13	-2.22
Blue Mts.	0.61	-0.76	1.66	-0.08	0.87	-0.96	2.17	-0.17	2.54	+0.53	1.5	+0.1	9.35	-1.34
Southern	1.69	-0.32	3.42	-0.04	1.28	-2.56	2.33	-1.21	4.96	+1.99	2.8	+0.5	16.48	-1.64
Willamette	1.59	-2.57	5.90	-1.99	3.12	-5.38	6.74	-0.93	8.46	+2.07	9.1	+3.4	34.91	-5.40
Area	0.87	-0.68	2.51	-0.10	1.20	-1.54	2.25	-0.48	3.13	+0.78	2.4	+0.5	12.34	-1.51

P - Inches precipitation. D - Inches departure from normal.

S. E. - Southeastern Oregon range lands, Harney and Malheur Counties.
S. C. - Southcentral Oregon range lands, Lake County and Klamath County, except the Cascade Mountains.
N. C. - Northcentral Oregon wheat and range lands, Crook, Deschutes, Jefferson, Wheeler and part of Grant Counties.
Col. Riv. - Columbia River area, wheat and range lands, Gilliam, Morrow, Sherman, Wasco and part of Umatilla Counties.
Wal. Mts. - Wallowa Mountain area, forest and range lands, Wallowa and part of Baker County.
Blue Mts. - The Blue Mountain forest and range area, Union and parts of Baker, Grant and Umatilla Counties.
Southern - Southern Oregon irrigated section, Jackson and Josephine Counties.
Willamette - Parts of Polk, Benton, Yamhill, Washington, Lane and all of Linn, Marion, Clackamas and Multnomah Counties.

Note: Data for the last month shown above are preliminary, as they are based on a few stations only. Data for earlier months have been corrected to include all the stations in Climatological Data for the area.

STREAM BASINS (Primary & Secondary & Snow Courses)	LOCATION Oregon Number	Sec.	Twp.	Range	Elev.	SNOW COVER MEASUREMENTS About April 1, 1945 Date	Avg. Snow Depth (In.)	Avg. Water Depth (In.)	Average Water Depth (Inches) One Month Ago (3-1-45)	One Year Ago (4-1-44)	Two Years Ago (4-1-43)	Avg. for past yrs. of record	Yrs. of record
UPPER COLUMBIA DRAINAGE													
LOWER SNAKE IN OREGON													
OWYHEE RIVER													
Big Bend	Nev.	30	45N	56E	6800	4-4	40.5	* 12.1	8.1	5.6	15.3	9.8	10
Fry Canyon	Nev.	32	43N	54E	6800	4-3	39.0	* 12.7	8.6	6.5	8.7	8.2	4
Gold Creek Ranger Sta.	Nev.	32	45N	56E	6600	4-4	28.2	* 9.0	6.3	3.5	8.9	6.4	5
Granite Peak	Nev.	27	44N	39E	8600	4-5	52.0	* 15.9	11.4	13.0	19.1	15.4	5
Lower Buckskin	Nev.	25	45N	39E	6800	3-25	29.9	* 11.4	8.8	8.2	8.5	7.4	3
Lower Jack Creek	Nev.	19	42N	53E	7000	4-5	26.2	* 5.1	6.6	0.0	0.0	2.3	5
Martin Creek	Nev.	24	44N	39E	7000	3-27	34.5	* 10.3	6.8	7.1	6.1	7.2	4
Midas	Nev.	18	39N	46E	7200	4-4	26.8	* 10.2	7.9	0.9	0.3	0.6	4
Rodeo Flat	Nev.	31	43N	54E	7000	4-3	43.1	* 13.8	10.0	6.6	10.6	9.0	4
South Mountain No. 2	Idaho	35	7S	5W	6340	4-1	51.1	* 17.4	12.5	6.5	13.8	9.9	5
Taylor Canyon	Nev.	32	39N	53E	5200	4-4	24.7	* 9.4	7.6	0.0	0.0	2.8	4
Tremewan Ranch	Nev.	4	29N	55E	5600	Abt.4-4	0.0	* 0.0	2.2	0.0	0.0	0.2	3
Upper Buckskin	Nev.	14	45N	39E	8200	3-25	39.0	* 14.5	14.2	11.5	15.6	11.2	9
Upper Jack Creek	Nev.	9	42N	53E	7800	4-5	43.8	* 15.6	10.7	7.5	9.4	9.0	4
MALHEUR RIVER													
Barney Creek	143	16	14S	36E	5950	3-29	23.9	7.2	4.6	-	-	-	0
Blue Mountain Springs	133	21	15S	35E	5900	3-28	47.3	* 14.1	10.4	8.2	21.8	13.9	15
Crane Prairie	137	24	16S	34E	5375	3-27	23.3	* 7.9	6.5	5.8	12.3	7.0	7
Lake Creek	136	10	16S	33½E	5120	3-26	35.0	* 10.1	8.2	5.6	14.4	8.3	7
Rock Spring	134	23	18S	32E	5100	3-28	16.4	5.7	4.7	3.1	4.3	4.3	9
Stinking Water	135	33	21S	34E	4800	4-4	0.0	0.0	0.8**	0.0	0.0	0.9	7

* Telegraphic; subject to minor revision.
** Partly estimated.

STREAM BASINS (Primary & Secondary & Snow Courses)	LOCATION Oregon Number	Sec.	Twp.	Range	Elev.	SNOW COVER MEASUREMENTS About April 1, 1945 Date	Avg. Snow Depth (In.)	Avg. Water Depth (In.)	Average Water Depth (Inches) One Month Ago (3-1-45)	One Year Ago (4-1-44)	Two Years Ago (4-1-43)	Avg. for past yrs. of record	Yrs. of record
BURNT RIVER													
Barney Creek	143	16	14S	36E	5950	3-29	23.9	7.2	4.6	-	-	-	0
Blue Mountain Summit	141	6	12S	36E	5098	3-27	24.8	7.7	7.3	4.6	12.2	6.2	10
Dooley Mountain	156	32	11S	40E	5430	3-31	29.7	10.3	9.4	7.2	11.7	7.8	6
Tipton	142	34	10S	35½E	5100	3-28	27.0	12.5	11.7	5.8	17.0	9.2	12
POWDER RIVER													
Anthony Lake	155	18	7S	37E	7125	3-27	77.6	22.1	-	20.5	38.0	25.1	9
Bourne	154	33	8S	37E	5800	4-1	47.7	22.5	14.0	8.4	22.6	13.8	9
Dooley Mountain	156	32	11S	40E	5430	3-31	29.7	10.3	9.4	7.2	11.7	7.8	6
Eilertson Meadows	151B	18	8S	38E	5400	3-29	28.0	8.9	7.0	6.5	14.7	11.0	7
Gold Center	249	21	9S	36E	5340	3-31	36.6	12.7	11.6	8.0	14.4	9.6	6
Summit Springs	184	9	6S	37E	6000	3-28	62.9	19.2	-	18.2	27.2	21.0	9
Taylor Green	185	3	6S	42E	5740	3-29	46.8	14.7	-	11.7	22.1	14.5	7
PINE CREEK													
Schneider Meadows	161	35	6S	45E	5400	3-31	73.7	26.1	-	20.3	36.7	27.4	7
IMNAHA RIVER													
Aneroid Lake No. 1	183	16	4S	45E	7480	3-31	93.7	30.5	19.7	21.0	43.1	33.6	11
Aneroid Lake No. 2	183A	16	4S	45E	7000	3-31	71.8	24.9	13.6	18.8	32.8	26.2	3
Coverdale	171	22	5S	47E	4250	3-27	23.7	7.8	5.4	-	-	-	0
GRANDE RONDE RIVER													
Aneroid Lake No. 1	183	16	4S	45E	7480	3-31	93.7	30.5	19.7	21.0	43.1	33.6	11
Aneroid Lake No. 2	183A	16	4S	45E	7000	3-31	71.8	24.9	13.6	18.8	32.8	26.2	3
Anthony Lake	155	18	7S	37E	7125	3-27	77.6	22.1	-	20.5	38.0	25.1	9
Beaver Reservoir	188	8	5S	37E	5340	3-29	38.0	11.4	8.0	8.0	14.8	10.0	6
Camp Carson	187	33	6S	36E	5970	No Measurement			-	5.5	18.6	8.6	7
Meacham	221	24&25	1S	35E	4300	3-29	26.2	9.9	7.2	8.2	12.3	7.8	16

STREAM BASINS (Primary & Secondary & Snow Courses)	Oregon Number	LOCATION Sec.	Twp.	Range	Elev.	SNOW COVER MEASUREMENTS About April 1, 1945 Date	Avg. Snow Depth (In.)	Avg. Water Depth (In.)	Average Water Depth (Inches) One Month Ago (3-1-45)	One Year Ago (4-1-44)	Two Years Ago (4-1-43)	Avg. for past yrs. of record	Yrs. of record
GRANDE RONDE RIVER (Cont'd.)													
Moss Spring	186A	28	3S	41E	5850	3-28	66.0	21.6	16.8	19.5	34.6	23.9	7
Summit Springs	184	9	6S	37E	6000	3-28	62.9	19.2	-	18.2	27.2	21.0	9
Taylor Green	185	3	6S	42E	5740	3-29	46.8	14.7	-	11.7	22.1	14.5	7
Tollgate	212	32	4N	38E	5070	3-29	75.4	26.0	15.3	20.0	34.6	24.9	14
LOWER COLUMBIA DRAINAGE													
WALLA WALLA RIVER													
Tollgate	212	32	4N	38E	5070	3-29	75.4	26.0	15.3	20.0	34.6	24.9	14
UMATILLA RIVER													
Emigrant Springs	222	29	1N	35E	3925	3-29	19.5	7.7	4.9	5.7	4.8	5.0	16
Lucky Strike	223	28	3S	32E	5050	3-24	42.7	13.2	10.0	9.5	12.2	10.5	6
Meacham	221	24&25	1S	35E	4300	3-29	26.2	9.9	7.2	8.2	12.3	7.8	16
Tollgate	212	32	4N	38E	5070	3-29	75.4	26.0	15.3	20.0	34.6	24.9	14
WILLOW CREEK													
Arbuckle Mountain	241	33	4S	29E	5400	3-26	38.1	11.8	9.0	6.9	9.0	9.4	16
JOHN DAY RIVER													
Arbuckle Mountain	241	33	4S	29E	5400	3-26	38.1	11.8	9.0	6.9	9.0	9.4	16
Beech Creek Summit	246A	4	12S	30E	4800	3-28	15.2	* 5.3	2.9	3.5	6.0	4.6	8
Blue Mountain Springs	133	21	15S	35E	5900	3-28	47.3	* 14.1	10.4	8.2	21.8	13.9	15
Blue Mountain Summit	141	6	12S	36E	5098	3-27	24.8	7.7	7.3	4.6	12.2	6.2	10
Dixie Springs	244	28	11S	34E	6650	3-28	69.7	20.2	-	15.3	29.0	22.0	9
Gold Center	249	21	9S	36E	5340	3-31	36.6	12.7	11.6	8.0	14.4	9.6	6
Izee Summit	964	28	16S	29E	5293	3-27	25.2	* 8.6	5.8	5.6	10.6	6.5	9
Olive Lake	245	14	9S	33½E	6000	3-30	53.7	17.6	12.3	11.0	21.6	16.5	9
Snow Mountain	965	1	19S	26E	6300	3-27	53.1	14.6	10.0	6.1	-	6.1	1
Starr Ridge	247B	20	15S	31E	5150	3-27	15.5	* 4.3	3.4	3.7	8.4	3.5	9

STREAM BASINS (Primary & Secondary & Snow Courses)	LOCATION Oregon Number	Sec.	Twp.	Range	Elev.	SNOW COVER MEASUREMENTS About April 1, 1945 Date	Avg. Snow Depth (In.)	Avg. Water Depth (In.)	Average Water Depth (Inches) One Month Ago (3-1-45)	One Year Ago (4-1-44)	Two Years Ago (4-1-43)	Avg. for past yrs. of record	Yrs. of record
DESCHUTES RIVER													
Caldwell Ranch	326	30	21S	8E	4400	4-2	5.3	2.1	-	2.6	13.8	6.8	8
Cascade Summit	321	7	23S	6E	4880	3-28	58.1	20.8	14.0	15.9	39.4	27.6	15
Charlton Lake	327	23	21S	6E	5750	4-2	62.3	18.3	-	12.9	40.7	24.4	8
Clear Lake	361	29	4S	9E	3500	3-24	24.9	6.9	3.1	8.2	22.2	12.8	13
Crescent Lake	325	11	24S	6E	4760	4-3	Trace	Trace	Trace	0.0	Trace	6.5	10
Derr	343	14	13S	23E	5670	3-30	33.3	10.4	-	7.4	11.3	9.5	8
Hogg Pass	351	24	13S	7½E	4755	4-1	87.0	31.2	16.8	22.9	53.8	33.8	7
Marks Creek	344	25	12S	19E	4540	3-31	3.6	1.0	1.0	0.7	5.3	2.7	7
New Dutchman	324A	21	18S	9E	6400	3-29	101.1	37.3	-	32.8	-	45.9	10
Ochoco Meadows	341	21	13S	20E	5200	4-2	34.6	11.0	8.2	5.0	13.1	8.2	16
Rock Creek	362	1	4S	10E	4200	3-28	25.4	9.3	-	-	-	-	0
Snow Mountain	965	1	19S	26E	6300	3-27	53.1	14.6	10.0	6.1	-	6.1	1
Three Creeks Meadows	331	3	17S	9E	5600	4-1	26.3	9.1	5.1	8.4	28.7	18.3	16
HOOD RIVER													
Brooks Meadows	431	2	2S	10E	4300	3-30	22.4	8.0	-	5.0	21.4	8.4	12
SANDY RIVER													
Clear Lake	361	29	4S	9E	3500	3-24	24.9	6.9	3.1	8.2	22.2	12.8	13
Phlox Point-Mt.Hood	452	6	3S	9E	5600	3-28	131.1	47.1	26.8	39.0	81.2	51.8	8
Still Creek	451	25	3S	8½E	3700	3-28	43.5	18.3	7.3	14.7	38.3	17.4	8
CLACKAMAS RIVER													
Clackamas Lake	592	35	5S	8½E	3400	No Measurement			-	-	24.8	10.2	6
Peavine Ridge	591	14&15	6S	7E	3500	4-2	31.8	10.4	6.8	9.8	35.5	16.2	8
WILLAMETTE RIVER													
Breitenbush	551	21	9S	7E	2325	3-31	0.0	0.0	Trace	0.0	-	0.0	3
Cascade Summit	321	7	23S	6E	4880	3-28	58.1	20.8	14.0	15.9	39.4	27.6	15

STREAM BASINS (Primary & Secondary & Snow Courses)	LOCATION Oregon Number	Sec.	Twp.	Range	Elev.	SNOW COVER MEASUREMENTS About April 1, 1945 Date	Avg. Snow Depth (In.)	Avg. Water Depth (In.)	Average Water Depth (Inches) One Month Ago (3-1-45)	One Year Ago (4-1-44)	Two Years Ago (4-1-43)	Avg. for past yrs. of record	Yrs. of record
WILLAMETTE RIVER (Cont'd.)													
Champion	522	12	23S	1E	4500	3-31	53.8	18.8	4.9	16.1	33.1	18.1	6
Charlton Lake	327	23	21S	6E	5750	4-2	62.3	18.3	-	12.9	40.7	24.4	8
Hogg Pass	351	24	13S	7½E	4755	4-1	87.0	31.2	16.8	22.9	53.8	33.8	7
McKenzie	531	35	15S	7½E	4800	3-25	82.7	27.9	-	25.2	50.6	29.2	6
Marion Forks	553	28	11S	7E	2730	4-1	Trace	Trace	Trace	1.5	20.6	6.6	4
Mary's Peak	541	21	12S	7W	3620	3-26	47.5	19.3	-	6.9	3.8	5.0	6
Santiam Junction	552	14	13S	7E	3990	4-1	40.4	14.8	7.0	8.3	33.2	14.0	4
Waldo Lake	521A	15	21S	6E	5500	4-1	59.7	19.6	-	12.9	39.2	21.9	7
INTERIOR DRAINAGE													
SILVER LAKE													
Silver Creek	942	25&26	29S	13E	4900	3-31	0.0	0.0	0.0	0.0	3.3	0.8	4
CHEWAUCAN RIVER													
Mill Creek	922	1	34S	17E	6200	3-28	21.9	7.8	5.9	3.3	7.0	4.4	6
HARNEY BASIN													
Deer Creek	973	17	36S	26E	6670	4-3	24.2	8.1	-	6.2	6.4	7.3	5
Fish Creek	952	4	33S	33E	7900	3-29	94.5	27.1	-	16.0	34.1	23.1	6
Hart Mountain	971	1	36S	25E	6350	4-4	9.2	3.4	-	Trace	1.3	1.6	6
Idylwild Camp	961A	33	20S	31E	5200	3-28	16.5	5.8	4.3	2.1	4.5	2.7	14
Izee Summit	964	28	16S	29E	5293	3-27	25.2	* 8.6	5.8	5.6	10.6	6.5	9
Rock Spring	134	23	18S	32E	5100	3-28	16.4	5.7	4.7	3.1	4.3	4.3	9
Silvies	951	35	32S	33E	6900	3-28	64.8	19.4	-	10.0	12.3	12.9	8
Snow Mountain	965	1	19S	26E	6300	3-27	53.1	14.6	10.0	6.1	-	6.1	1
Starr Ridge	247B	20	15S	31E	5150	3-27	15.5	* 4.3	3.4	3.7	8.4	3.5	9

STREAM BASINS (Primary & Secondary & Snow Courses)	Oregon Number	LOCATION Sec.	Twp.	Range	Elev.	SNOW COVER MEASUREMENTS About April 1, 1945 Date	Avg. Snow Depth (In.)	Avg. Water Depth (In.)	Average Water Depth (Inches) One Month Ago (3-1-45)	One Year Ago (4-1-44)	Two Years Ago (4-1-43)	Avg. for past yrs. of record	Yrs. of record
GUANO LAKE													
Bald Mountain	Nev.	17	45N	21E	6720	3-30	15.9	5.1	3.3	0.0	4.3	2.7	5
Guano Creek	972	13	36S	25E	6480	4-3	21.6	7.7	-	6.6	4.9	6.5	5
WARNER LAKE													
Camas Creek	911A	5	39S	21E	5720	3-26	34.4	10.9	8.8	8.6	13.5	8.5	6
WEST COAST DRAINAGE													
UMPQUA RIVER													
Champion	522	12	23S	1E	4500	3-31	53.8	18.8	4.9	16.1	33.1	18.1	6
Diamond Lake	743	29	27S	6E	5315	3-29	49.2	17.6	9.7	10.6	31.3	16.0	16
Goolaway Gap	726	32	32S	3W	3000	3-28	1.4	0.5	0.0	0.0	0.0	1.8	9
Goolaway Mountain	7215	30	32S	3W	3730	3-28	14.6	5.7	0.2	1.2	0.6	5.5	8
No. Umpqua nr. Lake Creek	742	19	26S	6E	4215	3-31	12.6	5.5	-	5.8	7.5	8.4	8
Trap Creek	741	1	27S	4E	3800	4-1	17.6	6.4	-	5.4	10.8	10.0	8
Whaleback	7217	3	31S	2E	5140	4-3	83.0	34.6	-	24.7	39.3	32.0	8
ROGUE RIVER													
Althouse	7216	17	41S	7W	4400	3-31	20.9	7.8	0.7	0.5	0.4	7.4	8
Annie Spring	831	19	31S	6E	6018	3-28	113.8	36.1	24.2	23.9	49.9	40.8	12
Big Red Mountain	729	31	40S	1W	6500	4-2	61.6	20.3	-	19.7	23.2	30.0	9
Billie Creek Divide	722	30	36S	5E	6000	3-28	58.5	22.3	15.2	17.0	31.3	21.8	14
Fish Lake	725	3	37S	4E	4865	3-29	26.7	10.0	4.5	9.2	9.6	12.5	11
Goolaway Gap	726	32	32S	3W	3000	3-28	1.4	0.5	0.0	0.0	0.0	1.8	9
Goolaway Mountain	7215	30	32S	3W	3730	3-28	14.6	5.7	0.2	1.2	0.6	5.5	8
Grayback Peak	727	9	40S	5W	6000	3-28	60.0	20.2	7.2	14.3	18.6	26.3	9
Hyatt Prairie Reservoir	723	15	39S	3E	4900	3-25	29.8	7.9	3.7	5.6	2.7	7.8	12
Little Red Mountain	7210	25	40S	2W	6500	4-3	53.8	19.3	-	14.7	13.3	22.2	9
Park Headquarters	838	8	31S	6E	6450	3-28	134.0	49.2	32.1	-	66.6	66.6	1

STREAM BASINS (Primary & Secondary & Snow Courses)	Oregon Number	LOCATION Sec.	Twp.	Range	Elev.	SNOW COVER MEASUREMENTS About April 1, 1945 Date	Avg. Snow Depth (In.)	Avg. Water Depth (In.)	Average Water Depth (Inches) One Month Ago (3-1-45)	One Year Ago (4-1-44)	Two Years Ago (4-1-43)	Avg. for past yrs. of record	Yrs. of record
ROGUE RIVER (Cont'd.)													
Scragg Mountain (Calif.)	7220	9	47N	10W	6200	3-28	59.6	24.2	13.4	15.1	21.2	19.6	4
Seven Lakes No. 1	7211	3	34S	5E	6800	4-2	129.4	51.8	-	36.4	76.6**	55.9	9
Seven Lakes No. 2	7212	26	33S	5E	6200	4-2	97.1	33.2	-	26.0	48.6	40.8	9
Silver Burn	7219	30	30S	4E	3720	3-30	11.0	4.6	0.8	3.7	9.6	8.5	8
Siskiyou Summit	728	17	40S	2E	4630	3-29	7.6	2.7	0.4	0.3	1.0	3.5	9
South Fork Canal	7218	12	33S	3E	3500	3-30	0.0	0.0	Trace	0.0	0.0	0.9	8
Wagner Butte	7213	1	40S	1W	6900	3-26	49.9	14.7	8.5	10.8	10.1	16.3	10
Whaleback	7217	3	31S	2E	5140	4-3	83.0	34.6	-	24.7	39.3	32.0	8
KLAMATH LAKE BASIN													
Annie Spring	831	19	31S	6E	6018	3-28	113.8	36.1	24.2	23.9	49.9	40.8	12
Beatty 2/		22	36S	12E	4300	3-31	0.0	0.0	0.0	0.0	0.0	0.0	18
Billie Creek Divide	722	30	36S	5E	6000	3-28	58.5	22.3	15.2	17.0	31.3	21.8	14
Chemult No. 1	834	21	27S	8E	4760	4-2	10.3	4.0	5.1	1.1	15.2	6.8	8
Chiloquin 2/		34	34S	7E	4187	3-31	0.0	0.0	0.0	0.0	0.0	0.2	17
Crystal 2/		26	34S	6E	4200	3-31	Trace	Trace	2.0	2.5	4.0	4.5	15
Fort Klamath 2/		22	33S	7½E	4150	3-31	0.0	0.0	0.0	0.0	0.0	1.0	18
Hyatt Prairie Reservoir	723	15	39S	3E	4900	3-25	29.8	7.9	3.7	5.6	2.7	7.8	12
Kirk 2/		1	33S	7E	4533	3-31	0.0	0.0	0.0	0.0	0.0	1.6	15
Lake of the Woods No.1	835	11	37S	5E	4960	3-30	21.2	6.2	3.7	7.7	12.0	8.9	8
Park Headquarters	838	8	31S	6E	6450	3-28	134.0	49.2	32.1	-	66.6	66.6	1
Pelican 2/		10	36S	6E	4200	3-31	0.0	0.0	0.2	0.0	0.0	0.9	17
Quartz Mountain	811	2	38S	16E	5320	3-26	17.7	5.7	4.9	5.1	0.0	3.6	14
Quartz Mountain 2/		33	37S	16E	5504	3-26	22.0	6.5	8.5	5.5	5.5	4.2	14
Richardson Ranch 2/		22	35S	14E	4800	3-31	0.0	0.0	0.0	0.0	0.0	0.0	18
Seven Lakes No. 1	7211	3	34S	5E	6800	4-2	129.4	51.8	-	36.4	76.6**	55.9	9
Seven Lakes No. 2	7212	26	33S	5E	6200	4-2	97.1	33.2	-	26.0	48.6	40.8	9

** Partly estimated.

STREAM BASINS (Primary & Secondary & Snow Courses)	LOCATION Oregon Number	Sec.	Twp.	Range	Elev.	About April 1, 1945 Date	Avg. Snow Depth (In.)	Avg. Water Depth (In.)	Average Water Depth (Inches) One Month Ago (3-1-45)	One Year Ago (4-1-44)	Two Years Ago (4-1-43)	Avg. for past yrs. of record	Yrs. of record
KLAMATH LAKE BASIN (Cont'd.)													
Strawberry	837	4	40S	16E	5600	4-3	20.3	7.2	5.6	-	2.4	2.7	5
Summer Rim	841	15	33S	16E	7200	3-27	42.0	13.5	-	8.1	20.9	14.8	8
Sun Mountain	836	22	32S	7½E	5350	3-28	65.9	20.3	13.9	15.4	37.6	26.3	8
Taylor Butte	842	16	33S	11E	5100	3-26	5.2	1.9	-	0.9	2.4	2.9	8
Yamsey 2/		19	30S	11E	4600	3-31	0.0	0.0	0.0	0.0	0.0	0.6	14
GOOSE LAKE BASIN													
Camas Creek	911A	5	39S	21E	5720	3-26	34.4	10.9	8.8	8.6	13.5	8.5	6
Quartz Mountain	811	2	38S	16E	5320	3-26	17.7	5.7	4.9	5.1	0.0	3.6	14
Quartz Mountain 2/		33	37S	16E	5504	3-26	22.0	6.5	8.5	5.5	5.5	4.2	14
Strawberry	837	4	40S	16E	5600	4-3	20.3	7.2	5.6	-	2.4	2.7	5

IRRIGATION WATER SUPPLY FORECASTS

SEASON OF 1945

- Foreword -

Measurements of water content of snow were secured on all Oregon snow courses between March 24 and April 5. Watershed soil moisture determinations were made at 12 stations during the latter part of March.

The usual water forecast committee meetings were held in important irrigated regions of the State for the tenth consecutive year, during the period March 31 to April 7, as follows: The Dalles for Northcentral Oregon; Pendleton for the Umatilla-Walla Walla Basin; La Grande for Northeastern Oregon; Vale and Burns for Eastern Oregon; Bend for Central Oregon; Medford for Southern Oregon; and Lakeview for Southcentral Oregon. Most of the cooperating agencies were represented at these discussions.

Each committee's report, outlining the irrigation water supply prospect for 1945 in each area, is reproduced herewith. Modifications of these forecasts may later be required in accordance with deviations of precipitation and temperature from normal during the run-off season.

Forecasts

Northcentral Oregon

Prospects for irrigation water supplies for 1945 in this area are not better than fair and compare with prospects of the previous year, but with greater shortages expected in some localities. Rock Creek and Badger Lake reservoirs in southern Wasco County will fill but late season water supplies there and in the Wapinitia District will be fully as short as last year. The flow of White River at the station below Tygh Valley is forecast at 80,000 acre feet for the April 1 - September 30 period. This will equal 91 percent of last year's flow for the same period and 59 percent of the 15 year average (1929-1943).

Hood River Valley irrigation water supplies, mostly from unregulated stream flow, are expected to be short late in the season but not less than last year.

Regulation on Fifteenmile Creek is expected to begin about July 10, the same as last year, as compared with July 5, 1942 and June 18, 1941. No regulation was required in 1943. Late season stream flow in this and other small streams in northern Wasco County is expected to be very deficient.

Moisture stored in orchard soils of Wasco County and dry farm soils of Sherman and Morrow counties is considerably less than last year. This is due to a rainfall deficiency and no hold-over in the deep soil moisture. Stubble lands are wet down only from 30 to 36 inches generally, while summer fallow lands have had a moisture penetration of about 48 inches. Shallow lands in southern Sherman County are wet down to rock level.

Umatilla-Walla Walla Basin

Water content of mountain snow throughout this area, as of April 1, averages about 120 percent normal and 145 percent of last year. Total winter precipitation is nearly normal. Watershed soils under the snow-pack are generally not frozen. The outlook for water supplies is greatly improved over that of a year ago. Crop land soil moisture conditions are generally near normal, although deficient in scattered areas. Moisture in the dry wheat lands has penetrated to an average of 34 inches, - this is slightly better than average.

South Fork Walla Walla River: The snow-pack on this watershed is 30 percent greater than that of last year, and 105 percent of average. The April-September discharge of this stream is expected to be 56,000 acre feet, which will equal 114 percent of last year and 86 percent of a 15 year average. A "fair" water supply is assured for all parts of this area with "good" supplies to older rights.

Umatilla River: Water content of the snow-pack in this basin is 44 percent greater than that of a year ago and 120 percent of normal. The discharge of the Umatilla River during the April-September period, is expected to practically equal the 15 year average (1929-43). The Umatilla River near Gibbon is forecast to discharge 74,000 acre feet, or 120 percent of the previous year, for the six months' irrigation season; and the Umatilla River at Pendleton should flow 145,000 acre feet, or 124 percent of the previous year, for the same period. These flows are 96 and 98 percent, respectively, of the 15 year average. Cold Springs reservoir has now in storage 42,000 acre feet of water and will very probably fill.

McKay Creek: Inflow to McKay reservoir from McKay Creek is expected to be 22,000 acre feet. This will equal 95 percent of last year's flow and 92 percent of average. McKay reservoir now has in storage 63,050 acre feet and will fill.

Other Streams: Butter Creek will likely have a flow similar to that of last year. Willow Creek can be expected to discharge considerably more than last year, as the water content of the snow at the head of the watershed is 71 percent greater than in 1944 and is 126 percent of average.

Northeastern Oregon

The water supply outlook in this area generally is much better than last year. Mountain snow supplies are about average and much greater than last year.

Imnaha River: This stream is forecast to discharge 200,000 acre feet for the April 1 - September 30 period. This will equal 106 percent of last year's flow for the same period, and will provide an adequate supply for this area.

Wallowa River: The snow-water supply now is 39 percent greater than a year ago and is about 91 percent of average. Stream flow will be about 88 percent of normal. Wallowa Lake now contains 12,020 acre feet of water, the least since 1937, but it is expected that the greater amount of low elevation snow available this year will partly compensate for lack of stored water. Water users served from storage in Wallowa Lake can expect only "fair" supplies this year.

Stream discharge of Wallowa River tributaries for the April-September period is forecast as follows:

East Fork Wallowa River	8,500 acre feet	or 91 percent of average
Hurricane Creek	34,000 acre feet	or 89 percent of average
Lostine River	95,000 acre feet	or 89 percent of average
Bear Creek	50,000 acre feet	or 85 percent of average

Grande Ronde River: A snow-pack 25 percent greater than last year and 97 percent of normal prevails. This should result in a six months' flow (April-September) of 120,000 acre feet in the Grande Ronde at La Grande, or equivalent to 79 percent of average. Catherine Creek should have a discharge of 49,000 acre feet, or 78 percent of normal, for the same period.

Powder River: Water content of the snow on Powder River watershed is 25 percent greater than a year ago and about 97 percent of average. Powder River at Salisbury is forecast to discharge 45,000 acre feet, or 90 percent of normal, for the April-September period. The North Powder is expected to flow about 85 percent of average for the same period.

Thief Valley reservoir is full and will provide adequate supplies for the Lower Powder Valley. Irrigation water supplies in Pine and Eagle Creek valleys are expected to be materially better than last year, as the water content of the snow on those watersheds is 28 percent greater than a year ago.

Burnt River: Snow on watershed of this stream has a water content 75 percent greater than a year ago and 31 percent greater than average. The discharge of Burnt River near Hereford for the April-September period is expected to be 32,000 acre feet, or 99 percent normal. Unity reservoir has in storage about 13,000 acre feet of water and will fill.

Northeastern General: Well wetted soils are found throughout, except in the Wallowa drainage where shallow moisture penetration was evident until about two weeks ago when snows and rains penetrated to greater depths. Water supply prospects to the various areas of this section may be summarized as follows:

		Water Supply Outlook (Acres)		
Stream	Irrigated Acres	Good	Fair	Deficient
Imnaha River	1,469	1,469	-	-
Wallowa River	46,196	-	46,196	-
Joseph Creek	1,022	-	-	1,022
Grande Ronde River	17,483	5,000	10,000	2,483
Powder River	93,161	7,200	85,961	-
Burnt River	23,475	22,475	1,000	-

Eastern Oregon

Owyhee reservoir has 606,420 acre feet now in storage. Inflow of 310,000 acre feet is forecast during the April-September period. Owyhee reservoir will probably fill. The six months' forecast inflow will equal 107 percent of that of a year ago and 76 percent of the 1931-43 average. Adequate water supply is assured for users served from the Owyhee.

In the Jordan Valley area, Antelope reservoir has in storage 22,600 acre feet with prospects of a fairly good inflow to come. The outlook for lands served from this source is "good".

Malheur basin can expect near normal stream flow during the period April 1 - September 30. Middle Fork of the Malheur is forecast to discharge 60,000 acre feet, or 105 percent of average, and the North Fork is forecast to discharge 49,000 acre feet, or 104 percent average.

Agency Valley reservoir is now full, and Warmsprings reservoir is nearly half full. These reservoired supplies, together with the expected favorable inflow for the April-September period, indicate "good" water supplies to the Vale-Oregon and Warmsprings Irrigation Districts.

Willow Creek reservoir is now about half full with 13,000 acre feet in storage. An adequate water supply is assured to the lands served by this reservoir.

Soil moisture of crop lands throughout the Owyhee-Malheur-Willow Creek area is at least equal to average, and in places is better than average.

Snow-water supplies on the John Day River watershed are considerably better than last year and are about 15 percent above normal. Soil moisture in this area is below normal and in some localities is deficient.

Flow of Strawberry Creek, one of the upper tributaries of the Main Fork of John Day River, and considered an index to the flow of the main river through John Day valley, is forecast at 6,200 acre feet for the period April 1 - September 30. This will equal 88 percent of the 1931-43 average and will about equal run-off in 1939. A "fair" water supply will thus be available for John Day valley lands.

Silvies River and Silver Creek watersheds have snow supplies greatly exceeding those of a year ago and better than normal. The watershed is apparently well wetted and a good run-off seems assured. Silvies River is expected to discharge about 53,000 acre feet for the six months ending September 30, 1945. This will equal 86 percent of the average flow and should provide "fair" water supplies to 60,000 acres in Harney Basin. Flow of Silver Creek for the same period will be relatively greater as compared to normal and should provide "good" supplies for about 6,000 acres in the upper part of the basin, and a "fair" supply for 9,000 additional acres.

In southern Harney County the Steens Mountain area has a snow cover 80 percent greater than a year ago and about 130 percent of average. With a well wetted watershed, it seems likely that the Donner und Blitzen River will have an April-September discharge at least equal to normal. 52,000 acres of land in the Blitzen valley are assured adequate water supplies for the 1945 irrigation season.

Range conditions in the Harney Basin are generally backward this year, except for the southern part of the county, but soil moisture penetration is favorable for a good growth as soon as temperature conditions permit.

Central Oregon

Ochoco Reservoir now has in storage 12,350 acre feet, and 11,000 acre feet inflow is forecast yet to come during April 1 - September 30. This total supply will furnish only a "fair" water supply to the 8,500 acres in Ochoco Irrigation District. Snow cover on Crooked River watershed is above average at higher elevations but very deficient below 5,000 feet. Watershed and crop land soils are well wetted as compared with the prevailing condition a year ago. Approximately 9,000 acres receiving water from the various unregulated tributaries of Crooked River can expect supplies at least equal to last year and probably better. Beaver and Rager Creeks are expected to have early summer discharge near average. Repetition of last year's June rains would bring abundant water supplies.

Snow supplies in the Upper Deschutes area are only about 65 percent of average although generally much better than last year. Low elevation snow is sparse. Watershed soils in the Wickiup area are well wetted with resultant rise in ground water level indicated; elsewhere soils are not so wet, but are near normal in moisture content.

The Tumalo Project, supplied from Crescent Lake and Tumalo Creek may expect normal water supplies until about September 1. Unregulated stream flow below normal will furnish water supplies after that date. Crescent Lake now has in storage 34,360 acre feet. Net inflow for the 6 month period ending September 30 is expected to be 5,000 acre feet which is 45 percent of normal.

Squaw Creek is not expected to furnish as good a flow as last year. Forecast discharge for the April-September period is 34,500 acre feet. This will be 73 percent of normal and will furnish fair supplies only to the 1,200 acres in the Sisters Irrigation District. The 6,000 acres served from the Squaw Creek canal will have less water than last year with a predicted mean monthly flow of 110 c.f.s. in June; 65 c.f.s. in July; 45 c.f.s. in August; and 25 c.f.s. in September. Acreage under the Plainview and McAllister ditches will have stock water only.

Odell Creek will probably discharge 22,000 acre feet in the next 6 months. This will be 10 percent greater flow than last year but will be only 91 percent of average. Crane Prairie reservoir now has in storage 32,300 acre feet and will probably peak at 36,000 acre feet. Wickiup reservoir is storing 67,220 acre feet and will go to 68,000. The north unit served from Wickiup has experienced some canal construction delays so it is now hoped that about 5-10,000 acres only will be served this fall. The water supply will be adequate.

Swalley canal will have its usual adequate water supply this year. The Central Oregon Irrigation District expects to be able to deliver about 80 percent of last year's water supply to the 41,500 acres served from its canals. This will be sufficient water only if each individual water user makes most efficient use of his supplies.

The Arnold canal, supplying water to 3,500 acres, and the Lone Pine canal, supplying 2,370 acres with water, can expect to use natural flow until about May 15 when they will begin to draw on Crane Prairie for reservoired supplies. This supply will lack about 80 days of carrying them through the season. However, it is expected that liberal use will be made of Cline Falls water to pull the C.O.I., Arnold, and Lone Pine water users through the late season in fairly good shape.

Although low range lands are somewhat backward due to cold weather, the spring grazing prospects are favorable since the grass received a good start last fall. The high ranges will probably be inaccessible until later this year because of greater snow cover. The Jefferson county range will open late again this year.

Southcentral Oregon

The 1945 irrigation water outlook for Lake County varies from "good" to "deficient". Soil moisture conditions both on the watersheds and in the crop lands are much better than last year and are about average. Conditions in the northern part, particularly in the Silver Creek area, are the only exception -- soil moisture and snow supplies are very deficient there.

Drew reservoir has in storage 47,000 acre feet and may fill. Cottonwood reservoir with 1,930 acre feet now stored will probably fill. Goose Lake valley water users served from these sources are assured a "good" supply for their 10,000 acres of irrigated land. 15,000 acres of land supplied by Thomas, Cottonwood, Crane, Cogswell, Kelley, and New Pine Creeks will probably have their usual "fair" supply.

Thompson Valley reservoir contains only 2,300 acre feet. With deficient run-off in sight the total water to be available will supply the 1,500 acres served from this source with only enough water for one short hay crop. 4,500 acres outside of the Silver Lake Irrigation District will have a "deficient" water supply.

The Chewaucan River is expected to discharge 50,000 acre feet during the April-June period. If obtained, this will equal 95 percent of the 1929-43 average. A "good" supply is assured the 25,000 acres of irrigated land in the upper and lower marsh area.

Water supply outlook for Warner Valley is "fair" and the water supply should give about normal crop production. Deep Creek is forecast to discharge 40,000 acre feet during April, May, and June, and will supply 18,000 acres with a run-off equal to about 80 percent of the 15 year average. Honey Creek, Twentymile Creek, and Hart Lake are expected to furnish "fair" water supplies to 2,500, 7,000, and 6,500 acres, respectively.

Range conditions are generally about average but the lower country in the northern part of the area may experience some shortage of stockwater toward the end of the season. The Hart Mountain Antelope Refuge has a much better snow coverage than last year and range conditions there are more nearly normal.

Southern Oregon

Rogue River, North Fork above Prospect (Station 722), is forecast to discharge 255,000 acre feet for six months, April-September, inclusive. This will equal 108 percent of last year's flow for the same period, and 92 percent of 1929-43 average.

Flow of Rogue River at Grants Pass is expected to be 85 percent of normal. Flow estimates for the low flow months follow:

	Forecast for 1945	
	Mean Monthly Flow	Low Monthly Flow
July	1,290 c.f.s.	1,150 c.f.s.
August	966 c.f.s.	930 c.f.s.
September	945 c.f.s.	920 c.f.s.

Flows at Raygold will be about 10 percent greater than the above forecast amounts. April-September flow at Raygold is estimated at 738,000 acre feet, equivalent to 104 percent of the flow last year for the same period.

Verification of these forecasts will mean that canal alternation in Grants Pass Irrigation District is not likely to be required this year.

Small tributaries to the lower Rogue, such as Evans Creek, Graves Creek, and Jump-off Joe, may expect low summer flow beginning about August 1, when regulation of streams will be in effect. Ditch closures of late rights may be expected during the latter part of August.

Snow supplies on the Main Applegate drainage are below normal and run-off for the April-September period is not expected to exceed 85,000 acre feet, or 75 percent of 1929-43 average. There is evidence that ground water supplies on the Applegate River watershed are depleted below normal and this, in conjunction with below normal snow supplies, indicates the regulation of water between rights will be advanced approximately two weeks, as compared with 1944. The shortage of water for late priority rights is expected about the 15th of August, and by September stream flow is not likely to support rights later than those of 1900.

Most of the irrigated lands in Bear Creek valley, with water storage facilities, are not expected to experience any water shortage, with exception of lands in the Talent Irrigation District where some shortage is expected. Emigrant reservoir now is full. Hyatt Prairie reservoir now stores 3,600 acre feet, with prospects of 3,600 acre feet additional inflow during April-September. Thus, 15,400 acre feet total storage is expected. This will provide about 80 days water supply and is 1,000 acre feet short of average storage requirements. Talent District water users are, therefore, cautioned against possibility of a late season irrigation shortage under normal conditions, and a rather serious shortage if the summer proves dry and warm. If withdrawal of water from storage can be delayed to June 15, water is likely to be available for irrigation until September 15. Consequently, maximum use of flood water is recommended.

McDonald Canal through Wagner Gap may cease water delivery by August 15.

The Medford and Rogue River Irrigation Districts have in prospect a relatively good water supply. Fourmile Lake reservoir, with 8,600 acre feet now in storage, may peak in storage at 14,000 acre feet unless earlier than usual withdrawals take place. Hold-over is expected in Fourmile reservoir at conclusion of the 1945 irrigation season. Soil moisture in crop lands near Medford is normal, and the upper 4 feet of soil are filled to available capacity.

On the debit side, particularly in the Talent District, is the fact that pear buds are at least a week to 10 days later in development than last year,

and also later in development than normal. This may mean a fruit harvest later than normal, with consequent maximum demand for irrigation water late in the season.

On the Klamath Basin side of the Cascade Mountains, inflow to Upper Klamath Lake for the six months' period, April-September, is set at 402,000 acre feet. If obtained, this will equal 105 percent of last year's inflow for the same period, and 101 percent of average. Ample water supplies are predicted for lands served from this source. In the Klamath Basin the season is slightly late and farming operations are just beginning to get well under way. Soil moisture conditions are good, and little demand for irrigation water is anticipated for at least two weeks. Little flood run-off is anticipated unless heavy rains fall in the next few weeks. Résumé of conditions influencing inflow to Gerber and Clear Lake reservoirs of the Klamath Project follows:

Clear Lake Reservoir: High temperatures prevailed throughout the winter and most of the precipitation on this watershed fell in the form of rain. Total precipitation for the stream year to date at Clear Lake Dam was 9.73 inches, or about 28 percent above average; however, a large percentage fell in early November and was absorbed by the ground. While precipitation on this watershed has been above average, the total yield for the stream year 1944-45 is estimated at 105,000 acre feet, or about 95 percent of average.

On April 1, 1945, the available storage in Clear Lake reservoir was 285,150 acre feet as compared to 296,080 acre feet on the same date last year. This storage is sufficient to provide a 2 year's water supply for the lands served from this source.

Gerber Reservoir: In general, conditions on the Gerber watershed were similar to those of Clear Lake. Precipitation at Gerber Dam for the period of October 1, 1944 to March 31, 1945, totaled 12.61 inches, or 3 percent greater than average, while the total run-off for the stream year, 1944-45, is estimated at about 80 percent of average. The available storage in the reservoir on April 1 was 60,070 acre feet, as compared to 54,130 acre feet on the same date last year. This storage provides almost a 2 year's supply for the lands served from this source.

Flow forecasts of the North Umpqua River and additional forecasts for Klamath Basin and Southern Oregon streams west of the Cascade Mountains, not described above, are given on page 3 of this report.

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1/ The following organizations cooperate in the Oregon snow survey work:

STATE

Idaho Cooperative Snow Surveys
Nevada Cooperative Snow Surveys
Oregon Agricultural Experiment Station
Oregon State Engineer and corps of State Watermasters
Oregon State Highway Engineers

FEDERAL

Department of Agriculture
- Forest Service
- Soil Conservation Service

Department of Commerce
- Weather Bureau

Department of the Interior
- Bonneville Power Administration
- Bureau of Reclamation
- Fish and Wildlife Service
- Geological Survey
- Indian Service
- National Park Service

War Department
- Army Engineer Corps

PUBLIC UTILITIES

Eastern Oregon Light and Power Company
Portland General Electric Company
The California Oregon Power Company

MUNICIPALITIES

City of Corvallis
City of LaGrande
City of The Dalles

IRRIGATION DISTRICTS

Associated Ditch Companies
Central Oregon Irrigation District
Deschutes County Municipal Improvement District
Grants Pass Irrigation District
Jordan Valley Irrigation District
Lakeview Water Users Incorporated
Medford Irrigation District
Ochoco Irrigation District
Rogue River Irrigation District
Talent Irrigation District
Vale-Oregon Irrigation District
Warmsprings Irrigation District

PRIVATE CORPORATIONS

Amalgamated Sugar Company

2/ Water content determined by melting a measured sample.
(The California Oregon Power Company's station)